

SRS UPDATE

NEWS FROM THE SAVANNAH RIVER SITE • APRIL 2005

DWPF pours seven million pounds of glassified waste

Seven million is a large number by anyone's standards. The Defense Waste Processing Facility (DWPF) recently poured its seven millionth pound of radioactive glass. DWPF is the largest and most productive high-level waste glass vitrification facility in the world.

"The organization continues to perform at high standards while meeting the site's cleanup challenges," says Jeff Barnes, DWPF Facility Manager. "Engineering has recently increased the target waste loading for each batch from 34 percent to 36 percent. Maintaining this increased waste loading for the remainder of the contract will ensure DWPF produces 1,100 equivalent canisters in fewer than the 880 discrete canisters allowed and saving an additional \$1 million dollars in life-cycle cost for each discrete canister reduced."

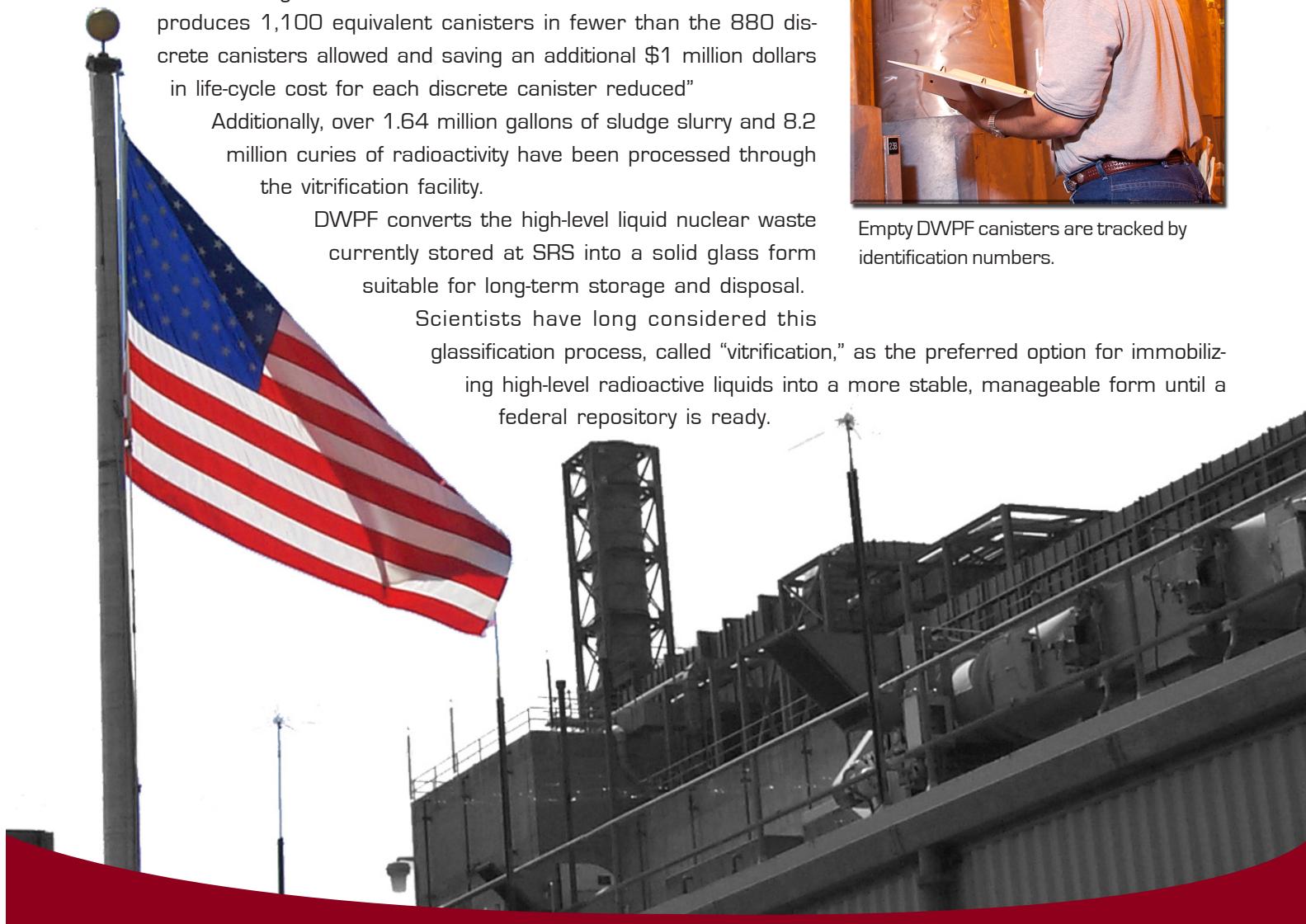
Additionally, over 1.64 million gallons of sludge slurry and 8.2 million curies of radioactivity have been processed through the vitrification facility.

DWPF converts the high-level liquid nuclear waste currently stored at SRS into a solid glass form suitable for long-term storage and disposal.

Scientists have long considered this glassification process, called "vitrification," as the preferred option for immobilizing high-level radioactive liquids into a more stable, manageable form until a federal repository is ready.

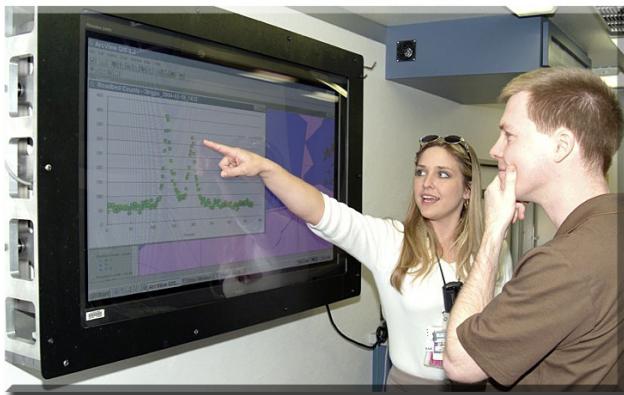


Empty DWPF canisters are tracked by identification numbers.



SRS IN BRIEF

SRNL invention named one of world's best



The Plasma Screen Floating Mount allows SRNL to use a large plasma display screen in its mobile laboratory.

in cooperation with the Federal Laboratory Consortium for Technology Transfer and the National Association of Seed and Venture Funds.

Manufacturers typically recommend against mounting large plasma screen displays in environments where shock and vibration occur – such as moving vehicles. SRNL, however, needed to use a 42-inch plasma display screen in the TRAC vehicle, a mobile laboratory that performs environmental monitoring and detection activities while traveling. To solve the problem, Pak and Eakle created a unique mount, which is designed to allow the plasma display to “float.” This floating action eliminates vibration and dampens shock to the display caused by external impacts, such as potholes or rough terrain, and prevents damage to the gas-filled glass platen and other sensitive electronics of the screen.

The working prototype of this patented mount has been in use in SRNL’s mobile laboratory for two years, providing stable, interference-free video, computer graphics and scientific modeling displays.

With the increasing popularity of flat panel display technology, this new mounting system could have a wide variety of applications, enabling the use of such display screens in mobile medical labs, military vehicles, mobile command centers, environmental laboratories – even recreational vehicles.

Secretary of Energy visits SRS

Secretary of Energy Samuel Bodman visited the Savannah River Site in March, flanked by U.S. Senators Lindsey Graham and Jim DeMint, and U.S. Representatives Gresham Barrett and Joe Wilson, all of South Carolina.

The Secretary's visit to SRS is his first since his swearing-in ceremony in February. It marks his second visit to a DOE facility in the field since he assumed his new duties. While on site, he met with Congressional leaders, and toured various areas, including the Defense Waste Processing Facility, F Tank Farm, K Area Material Storage, H Area and Saltstone Facility.

Bodman held the U.S. Treasury Deputy Secretary's position prior to being named Secretary of Energy.

For the second year in a row, an invention from the Savannah River National Laboratory (SRNL) has been named one of the World's Best Technologies. The Plasma Screen Floating Mount, invented by Don Pak and Bob Eakle of SRNL, was featured at the World's Best Technologies for 2005 Showcase. Each year, a seasoned screening panel of investors and commercialization experts selects up to 75 exhibitors that have the greatest potential for high growth commercial enterprises. The Plasma Screen Floating Mount was among the top 25, which are chosen for special attention. World's Best Technologies is produced



Energy Secretary Samuel Bodman.

SRS IN BRIEF

Bechtel picks TEF as a top project for 2004

Bechtel Corporation recently chose the recipients of its 2004 Construction Team of the Year awards.

SRS's Tritium Extraction Facility — a first-of-a-kind facility — won the award for Direct Hire Project of the Year. Some of the reasons for choosing TEF included a comprehensive safety program resulting in no lost time accidents in 2004, Six Sigma and performance-based programs resulting in the project earning maximum performance fees, and project completion 10 months ahead of schedule and under budget.

TEF is being built at SRS to supply tritium, a radioactive form of hydrogen necessary for the nation's nuclear weapons stockpile. TEF is part of the National Nuclear Security Administration's (NNSA) Defense Programs operations at SRS.

The NNSA's Tritium Readiness Program has produced Tritium Producing Burnable Absorber Rods, which will be irradiated in the Tennessee Valley Authority's Watts Bar or Sequoyah nuclear reactors. They will then be transported to SRS, where the tritium will be safely and efficiently extracted in TEF.



Shirley Smith (foreground) and Wendell Platt work in the site's newly consolidated and modernized tritium facility.

SRS employees honored for heroic deeds



Three SRS employees recently received DOE's Distinguished Service Award for their respective roles as emergency responders following the train accident in Graniteville. [From left] DOE-SR Manager Jeff Allison, Kevin Faircloth, Bill Elliott, Dwain Smith and SRS Fire Chief Gurney Wiggins. Approximately 100 SRS employees were honored during a special ceremony. Those who attended were directly involved in the rescue and recovery efforts following the January 2005 Graniteville train wreck and chlorine release.

SRS IN BRIEF

Fingerprint detection device receives patent



The headset-mounted BritePrint™ device enables real-time field detection and analysis of fingerprints.

An innovative tool developed by a researcher at the Savannah River National Laboratory (SRNL) to give law enforcement personnel a method for on-the-scene fingerprint detection and analysis has been issued a patent by the U.S. Patent and Trademark Office.

The BritePrint™ device, invented by SRNL's Eliel Villa-Aleman is a small, lightweight, battery-powered, high-intensity light source that saves investigators valuable time in the investigation process. The typical method for detecting fingerprints is a slow, cumbersome operation, in which personnel hold a heavy light source – sometimes for hours at a time – while using tape to lift prints, then send the tape back to a laboratory for analysis.

The lightweight BritePrint™ device would typically be worn on a headset for hands-free operation. Its light emitting diodes (LEDs) produce light that causes areas brushed with dye to be visibly fluorescent. Wearing light-filtering goggles makes markings in these areas easily detectable by the human eye, allowing an analyst to quickly proceed with on-site identification and analysis of prints. It can also be used with a video camera for recording critical crime scene evidence.

Sequiam Corporation of Orlando, Fla., has licensed BritePrint™ and is now manufacturing and marketing the device for use by law enforcement agencies.



The SRS Update is published monthly by Westinghouse Savannah River Company. If you have questions or comments about any of the articles, call 803.952.9583. Change of Address? Notify the WSRC Service Center: service-center@srs.gov or PSSC Bldg. 703-47A, Aiken, SC 29808

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Westinghouse Savannah River Company
P.O. Box 616
Aiken, SC 29802
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